COMMUNITY
connectivity program

Danbury

Mill Plain Road and Saw Mill Road

July 12, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM

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Acknowledgements:

OFFICE OF INTERMODAL PLANNING
BUREAU OF POLICY AND PLANNING
CONNECTICUT DEPARTMENT OF TRANSPORTATION

With assistance from AECOM Transportation Planning Group

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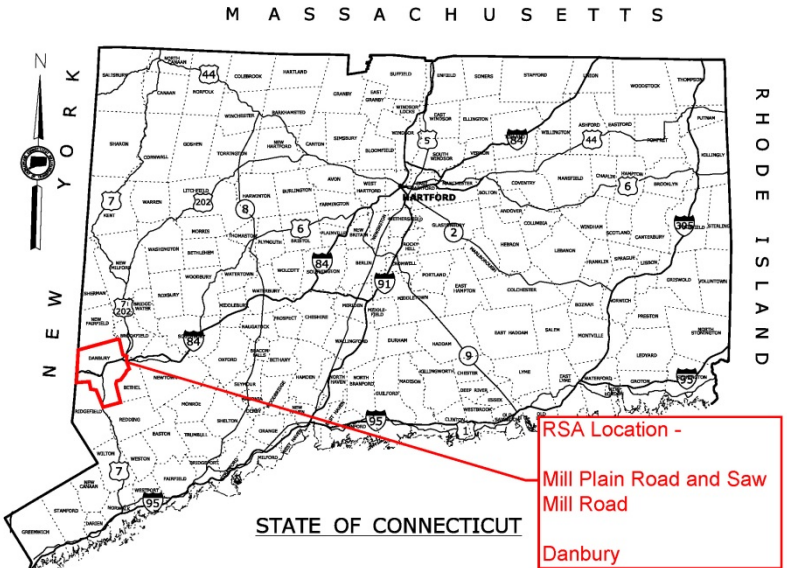
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at selected locations. An RSA is a formal safety assessment of the existing conditions of walking and biking routes and is intended to identify the issues that may discourage or prevent walking and bicycling. It is a qualitative review by an independent team experienced in traffic, pedestrian, and bicycle operations and design that considers the safety of all road users and proactively assesses mitigation measures to improve the safe operation of the facility by reducing the potential crash risk frequency or severity.

The RSA team is made up of CTDOT staff, municipal officials and staff, enforcement agents, AECOM staff, and community leaders. An RSA Team is established for each municipality based on the requirements of the individual location. They assess and review factors that can promote or obstruct safe walking and bicycling routes. These factors include traffic volumes and speeds, topography, presence or absence of bicycle lanes or sidewalks, and social influences.

Each RSA was conducted using RSA protocols published by the FHWA. For details on this program, please refer to www.ctconnectivity.com. Prior to the site visit, area topography and land use characteristics are examined using available mapping and imagery. Potential sight distance issues, sidewalk locations, on-street and off-street parking, and bicycle facilities are also investigated using available resources. The site visit includes a "Pre-Audit" meeting, the "Field Audit" itself, and a "Post-Audit" meeting to discuss the field observations and formulate recommendations. This procedure is discussed in the following sections.



1 Introduction to the Danbury RSA

The City of Danbury submitted an application to complete an RSA along Mill Plain Road (Route 6) and Saw Mill Road to improve safety for pedestrians and bicyclists. In 2012, the City of Danbury purchased several hundred acres of open space just north of Mill Plain Road to be used as a park, now called Farrington Woods Park. With this new recreational park in Danbury, the City would like to improve pedestrian and cyclist connections between the park, the retail developments on Mill Plain Road and the residential areas on Saw Mill Road.

The Town of Danbury's application contained information on traffic volumes, crash data, and mapping of the intersection. The application and supporting documentation are included in Appendix A.

1.1 Location

The site consists of a 2.5 mile corridor on Mill Plain Road between Old Ridgebury Road and the Park entrance, just west of Saw Mill Road. It also includes Saw Mill Road from the Mill Plain Road intersection to Turner Road in the City of Danbury (Figure 1). Danbury submitted an application identifying this corridor as in need of improved pedestrian and cyclist connections. There are currently sidewalks on the north side of Mill Plain Road between the shopping plaza and the hotel, as well as sidewalks on western side of Saw Mill Road between Reserve Road and Turner Road. Mill Plain Road is classified as a Minor Arterial roadway and provides and east-west connection through Danbury (Figure 1). Saw Mill Road is also classified as a Minor Arterial and provides a north-south connection through the city. The Average Daily Traffic (ADT) on Mill Plain Road ranges from 7,500 vehicles per day (vpd) near Saw Mill Road to 17,000 vpd near Old Ridgebury Road. On Saw Mill Road, the ADT ranges from 5,700 vpd to 6,100 vpd.

Figure 1. Mill Plain Road and Saw Mill Road

Figure 2. Danbury RSA area regional context

2 Pre-Audit Assessment

2.1 Pre-Audit Information

Between 2012 and 2014, there were 60 crashes in the RSA area along Mill Plain Road and Saw Mill Road. Rear-end collisions accounted for 27% of crashes, followed by turning (intersecting paths and opposite direction) collisions. The majority of crashes resulted in property damage only. However 17 crashes reported there involved parties with injuries (Table 1 and 2). There were no reported crashes involving pedestrians or cyclists. Figure 3 displays the location of crashes in the RSA area that occurred in 2015. These collisions are

concentrated at the Milestone Road and shopping plaza intersection on Mill Plain Road as well as the intersections of Mill Plain Road and I-84 entrance/exit 1 on Saw Mill Road.

Severity Type	Number of Accidents	
Property Damage Only	43	72%
Injury (No fatality)	17	28%
Total	54	

Table 1. Crash Severity

2012-2014

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	0	0%
Sideswipe-Same Direction	9	15%
Rear-end	16	27%
Turning-Intersecting Paths	8	13%
Turning-Opposite Direction	8	13%
Fixed Object	5	8%
Backing	2	3%
Angle	5	8%
Turning-Same Direction	3	5%
Moving Object	3	5%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	0	0%
Sideswipe-Opposite Direction	1	2%
Miscellaneous- Non Collision	0	0%
Total	60	

Table 2. Crash Type

2012-2014

Source: UConn Connecticut Crash Data Repository

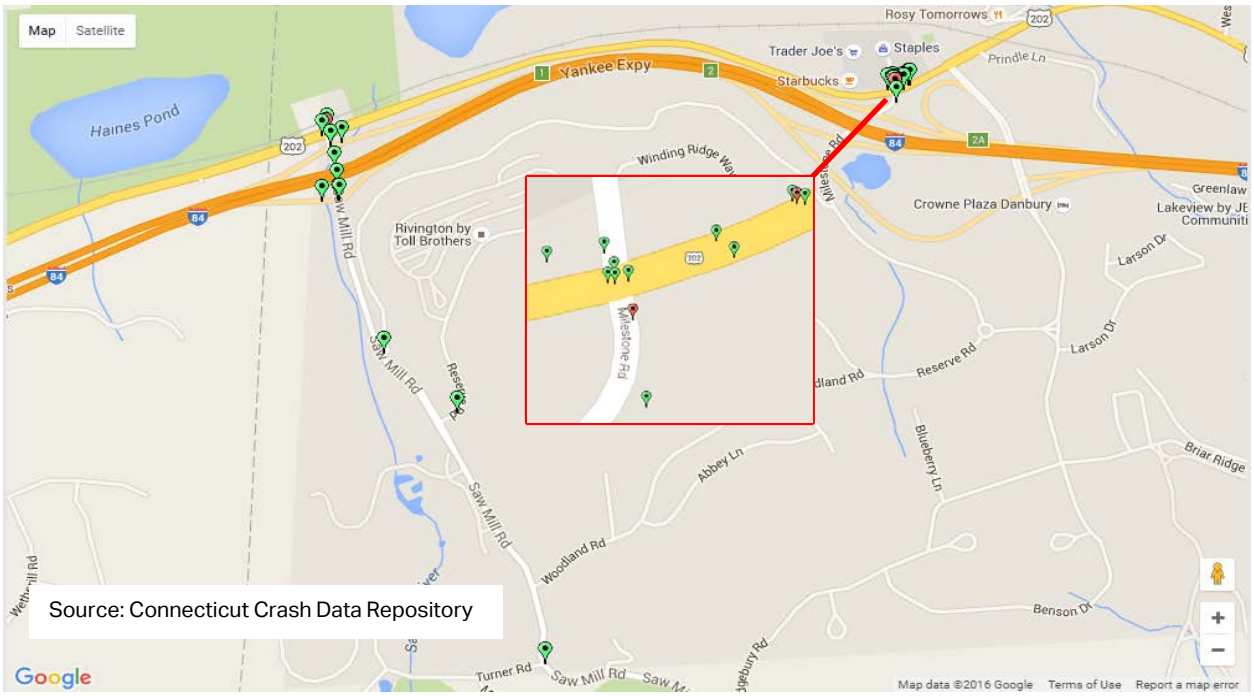


Figure 3. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

Mill Plain Road (Route 6) is a state owned and maintained facility, and runs in a relatively east-west direction through Danbury, extending (as Route 6) through Connecticut and New York, as well. Through this part of Danbury, Mill Plain Road generally has one eastbound and one westbound travel lane. Near major intersections, such as Milestone Road and Saw Mill Road, there are additional turn lanes. There are sidewalks on the north side of Mill Plain Road near the shopping plaza, but these sidewalks terminate near the Hilton Garden Inn. The entrance to Farrington Woods Park is located on the north side of Mill Plain Road between the Saw Mill Road intersection and the New York State border.

Saw Mill Road is a city owned and maintained facility and runs in a relatively north-south direction through Danbury. Between the Saw Mill Road intersection and I-84 ramps, there are two lanes in both the northbound and southbound directions. South of the ramps, these lanes merge into one lane in each direction. There are sidewalks on the western side of Saw Mill Road south of Reserve Road.

Turner Road is a city owned and maintained facility that runs in a relatively east-west direction in the RSA area. There are sidewalks on both sides of this road. Turner Road lies on the Danbury and Ridgefield town border. As a result, Danbury is responsible for the sidewalks on the north side of the road, while Ridgefield maintains the sidewalks on the south side of the road.

Roadway geometrics for the study area and intersections are shown in Figure 4. An inventory of existing conditions of the intersection can be found in Table 3.

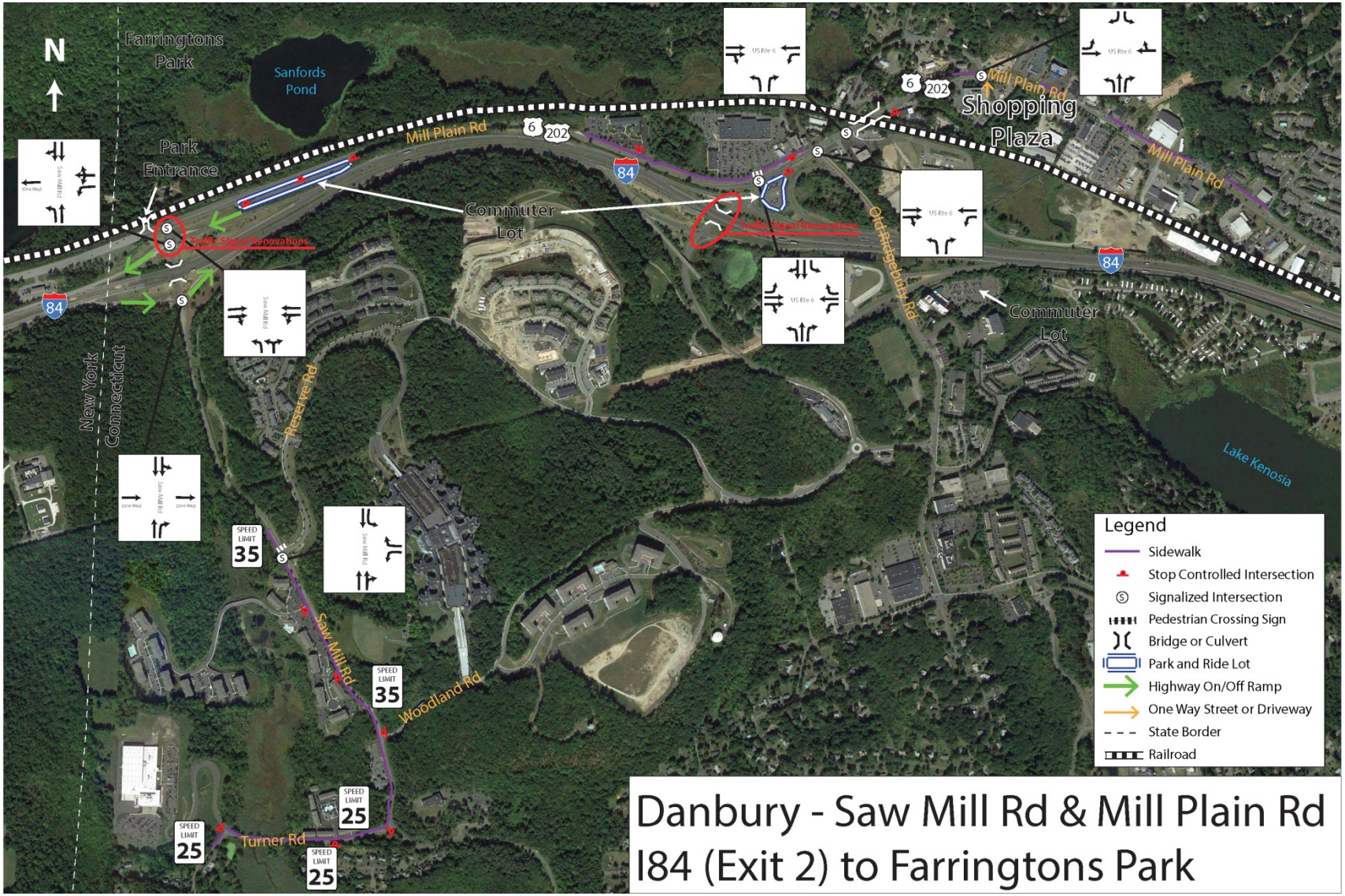


Figure 4. Danbury RSA area road geometrics

Danbury - Mill Plain Road and Saw Mill Road

Street Inventory

Street	Route	Approach	Lanes	Avg. Lane Width	Sidewalk				Curb	Parking	Shoulder	Ramps	
					Side	Type	Width	Condition*				Exist	Compliant
Mill Plain Road at shopping plaza intersection	Route 6	NB	Left Thru Thru/Right	12'	NB	-	-	-	Asphalt	No	1' - 3'	-	-
		SB	Left Thru Right	12'	SB	-	-	-	Asphalt	No	-	-	-
		EB	Left Thru Thru/Right	12'	EB	-	-	-	Asphalt	No	2' - 7'	-	-
		WB	Left Thru Right	12'	WB	Concrete	5'	Fair	Asphalt	No	2' - 7'	Yes	No
Mill Plain Road near Hotel	Route 6	EB	1	13'	EB	-	-	-	Asphalt	No	7'	-	-
		WB	1	13'	WB	Concrete	5'	Fair	Asphalt	No	7'	Yes	No
Mill Plain Road at Saw Mill Road intersection	Route 6	NB	Left Left/Thru	11' - 12'	NB	-	-	-	Asphalt	No	3' - 4'	-	-
		EB	2	12'	EB	-	-	-	Asphalt	No	8'	-	-
		WB	Thru Left	13'	WB	-	-	-	Asphalt	No	3' - 4'	-	-
		Median		7'									
Saw Mill Road under I-84 Bridge	-	NB	1	11'	NB	-	-	-	Conc. Barrier	No	1.5'	-	-
		SB	2	11' - 12.5	SB	-	-	-	Conc. Barrier	No	1.5'	-	-

***CONDITION – "Good" is Serviceable Condition that meets current design standards. "Fair" is generally serviceable, but may need minor repairs, or may not completely align with current design standards. "Poor" is not serviceable, and generally inadequate for continued long-term use.**

Table 3. Street Inventory

2.2 Prior Successful Efforts

A number of best practices have already been applied to this area of Danbury. There is a painted crosswalk at the shopping plaza's egress (Figure 5) and the city has also installed detectable warning strips on some of the ramps at this intersection (Figure 6). Crosswalk pushbuttons are also located at this intersection (Figure 7). The city has made significant efforts to improve recreational activity in Danbury, including purchasing the open space to create Farrington Woods Park (Figure 8).

Figure 5. Crosswalk at shopping plaza on Mill Plain Road

Figure 6. Detectable warning strip

Figure 7. Pushbutton

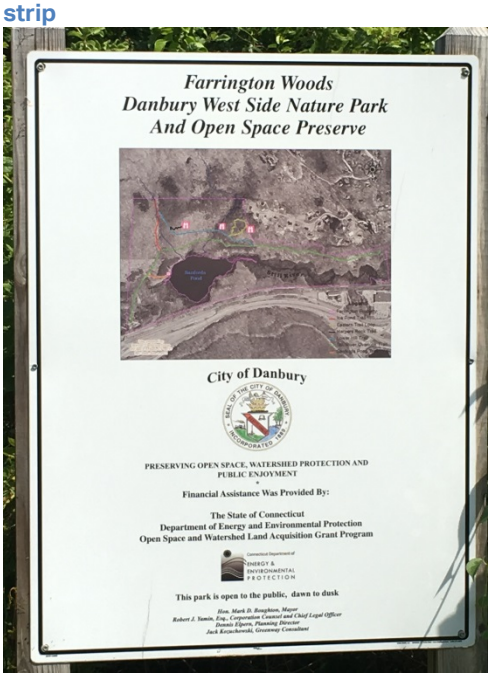


Figure 8. Sign at entrance to Farrington Woods

2.3 Pre-Audit Meeting

The RSA was conducted on July 12, 2016. The Pre-Audit meeting was held at 8:00 AM in the City Hall located at 155 Deer Hill Road in Danbury.

The RSA Team was comprised of staff from CTDOT and AECOM, as well as representatives from several Danbury departments and organizations including the Public Works and Engineering Department, Police Department and Planning Department. The complete list of attendees can be found in Appendix B. Materials distributed to the RSA Team, including the agenda, audit checklist, ADT counts, crash data and road geometrics, can be found in Appendix C.

RSA Team members from Danbury presented relevant information for the audit, including:

- Danbury is interested in upgrading roadways to include bike paths. Once these routes are established, the city would like them to be included on the state's bike map.
- The Police Chief is the Local Traffic Authority for Danbury.
- Danbury would like to encourage more walking in this area due to the proximity to retail on Mill Plain Road, Farrington Woods and the new residential units on Saw Mill Road.
- There are many large businesses located in the area, including the Matrix center off Saw Mill Road and Belimo on Turner Road.
- There are two commuter parking lots in the RSA area. The lot on Mill Plain Road near the shopping plaza has a bus shelter and is served by the HART #3 Line, Brewster Shuttle, and commuter routes.
- The rail line in the RSA area is owned by Housatonic Railroad Company (HRRC). Danbury indicated HRRC is not interested in issuing an easement to build a bike path along their line.
- There are traffic signal upgrade projects in the RSA area (State Project 174-376).
- Activity in the public park is increasing.
- Danbury would like to see pedestrian signals at the Mill Plain Road and Saw Mill Road intersections.

3 RSA Assessment

3.1 Field Audit Observations

- At the shopping plaza intersection on Mill Plain Road, there are no pedestrian signal heads to indicate when pedestrians can walk. Some ramps are missing detectable warning strips. The only painted crosswalk is at the plaza's egress.
- On the southeast corner of this intersection, there is a commuter parking lot that is served by HART (#3 and Brewster Shuttle) (Figure 9).
- There are only sidewalks on the north side of Mill Plain Road between the shopping plaza and the hotel. There are sections with overgrown vegetation that block the pathway (Figure 10).
- A pedestrian was observed crossing Mill Plain Road mid-block (Figure 11).
- The sidewalks end west of the hotel property. Past this point, there is a steep drop-off in the area's topography north of the westbound lane. The HRRC rail line is located in this area and generally runs parallel with Mill Plain Road throughout the RSA area.
- The shoulder area between the shopping plaza and Farrington Woods Park on Mill Plain Road is generally wide enough to accommodate bike lanes.
- In Farrington Woods Park, the bridge over the railroad is 15 feet wide.
- At the Mill Plain Road and Saw Mill Road intersection, the pedestrian pushbuttons are located in inaccessible locations. On the westbound side, the pushbutton is located behind the guardrail (Figure 12). Pedestrians must cross four lanes of traffic at this point.

Figure 9. Commuter parking lot with bus stop

Figure 10. Overgrown vegetation

Figure 11. Pedestrian crossing Mill Plain Road

- Heading southbound on Saw Mill Road, the roadway narrows and is constrained by the I-84 bridge. Three travel lanes run under the bridge, with shoulders approximately 1 foot wide. Concrete barriers line the bridge walls taking up potential shoulder room.
- Further south on Saw Mill Road are multiple housing complexes and large businesses. The residential developments along Woodland Road and Reserve Road have thousands of residents.
- There is sidewalk along the west side of Saw Mill Road between Reserve Road and Turner Road. It turns west on the north side of Turner Road as far as Barnum Place.
- On the south side of Turner Road there is an asphalt bike path between McKeon Place and Barnum Place (Figure 13).

Figure 12. Inaccessible pushbutton

Figure 13. Turner Road

3.2 Post-Audit Workshop - Key Issues

1. There are no sidewalks providing a connection to Farrington Woods Park.

2. The residential development off of Saw Mill Road has only completed 3 out of 11 planned phases. When all 11 phases are built, there will be a significant increase in vehicular, pedestrian and cyclist activity in the area. Danbury would like to provide sidewalk and bike lanes from the developments to the park.

3. Some crosswalks are not ADA compliant. Upgrades to the crosswalks throughout the corridor are inconsistent. Some pushbuttons are located in areas that are inaccessible to pedestrians with disabilities. This may result in a challenging environment for pedestrians to navigate.

4. While the shoulder width on Mill Plain Road is wide enough for bike lanes, there are more constraints on Saw Mill Road, particularly under the I-84 Bridge.

5. There are topography challenges along the corridor. Primarily there is a steep grade between Mill Plain Road and the HRRC rail line (Figure 16) that would make it difficult to construct a sidewalk. However, the roadway is wide in this section and could be narrowed to provide space for a sidewalk.

6. Pedestrians have a difficult time crossing Mill Plain Road (Route. 6) from the two commuter lots, where the bus stops are located, to the shopping plaza and Farrington Woods Park.

Figure 14. Ramp without detectable warning strip

Figure 15. Bridge over Saw Mill Road

Figure 16. Steep grade between Mill Plain Road and rail line

4 Recommendations

From the discussions during the Post-Audit meeting, the RSA team compiled a set of recommendations that are divided into short-term, mid-term, and long-term categories. For the purposes of the RSA, **Short-term** is understood to mean modifications that can be expected to be completed very quickly, perhaps within six months and certainly in less than a year if funding is available. These include relatively low-cost alternatives, such as striping and signing, and items that do not require additional study, design, or investigation (such as right-of way acquisition). **Mid-term** recommendations may be more costly and require establishment of a funding source, or they may need some additional study or design in order to be accomplished. Nonetheless, they are relatively quick turn-around items, and should not require significant lengths of time before they can be implemented. Generally, they should be completed within a window of eighteen months to two years if funding is available. **Long-term** improvements are those that require substantial study and engineering, and may require significant funding mechanisms and/or right-of-way acquisition. These projects generally fall into a horizon of two years or more when funding is available.

4.1 Short Term

1) Trim overgrown vegetation on sidewalks along Mill Plain Road (Figure 17).
2) The City should request that when CTDOT upgrades the signals at the ramps for I-84 at exits 1 & 2 (project # 174-376), that the project be expanded to the adjacent intersections on Mill Plain Rd. near the shopping plaza at Saw Mill Road to include:
   a) ADA compliant ramps with detectable warning strips (Figure 18).
   b) ADA compliant signal heads with countdown (Figure 19).
   c) ADA compliant pushbuttons in accessible locations (Figure 20).
   d) Painted crosswalks across Mill Pond Road.

Figure 21 depicts these recommendations.

Figure 17. Trim areas with overgrown vegetation

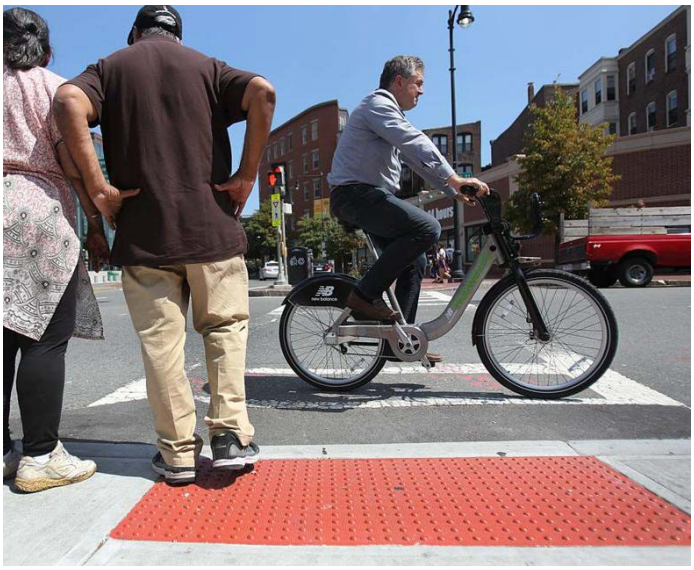


Figure 18. Ramp and detectable warning strip

Figure 19. Signal with countdown

Figure 20. Pushbutton

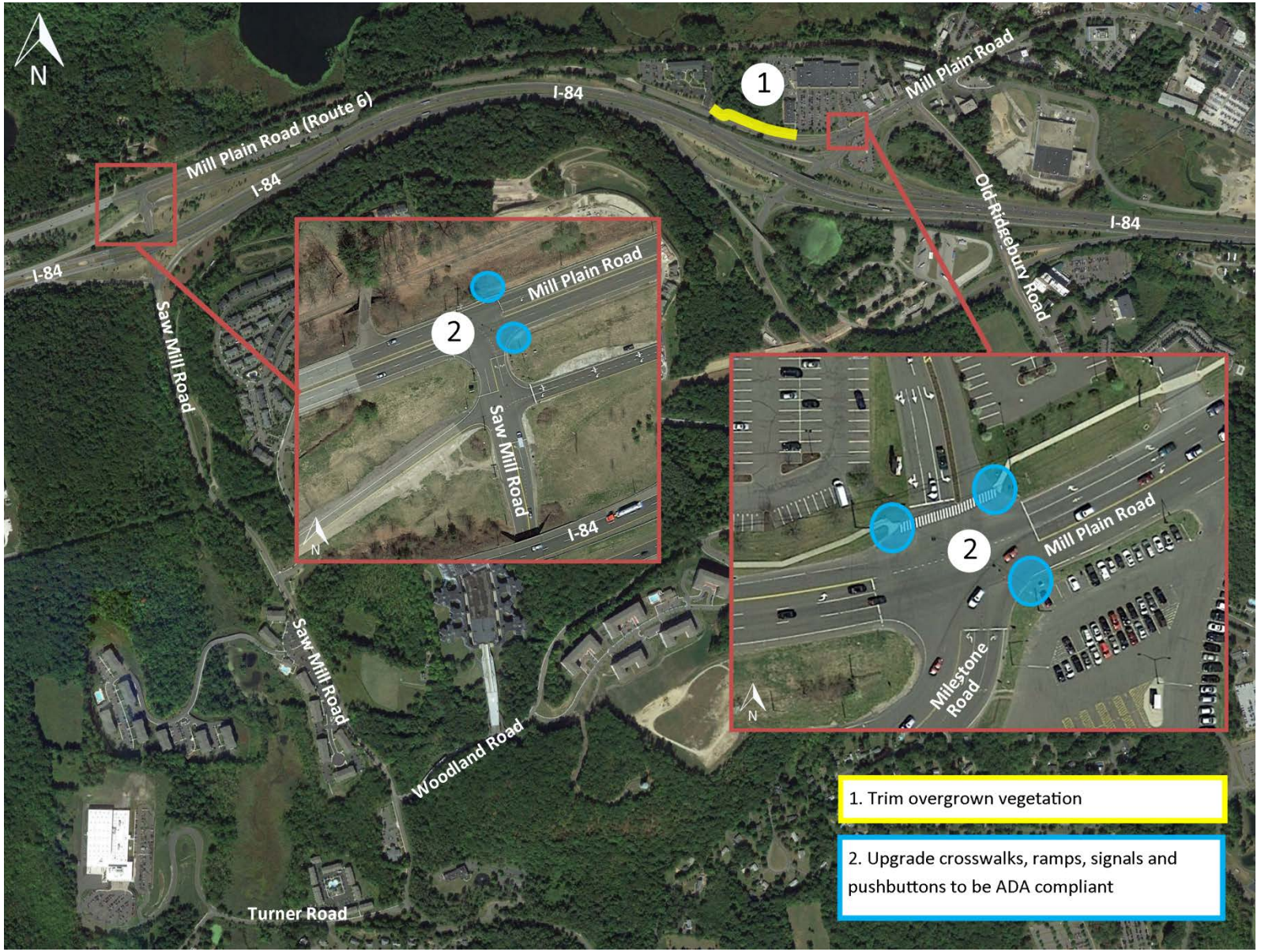


Figure 21. Short Term Recommendations

4.2 Medium Term

1) Restripe shoulder on Mill Plain Road to include bike lanes.
2) Stripe shoulder on Saw Mill Road to provide a bike lane to the residential developments (Figure 22).
3) Add sharrows on Saw Mill Road near the I-84 ramps and bridge for cyclists (Figure 23).
4) Consider installing pedestrian and cyclist warning signs (Figure 24) along Mill Plain Road and Saw Mill Road, particularly near the crosswalks.

Figure 25 depicts these recommendations.

Figure 22. Paint shoulder lines on Saw Mill Road

Figure 23. Sharrows

Figure 24. Pedestrian and cyclist sign

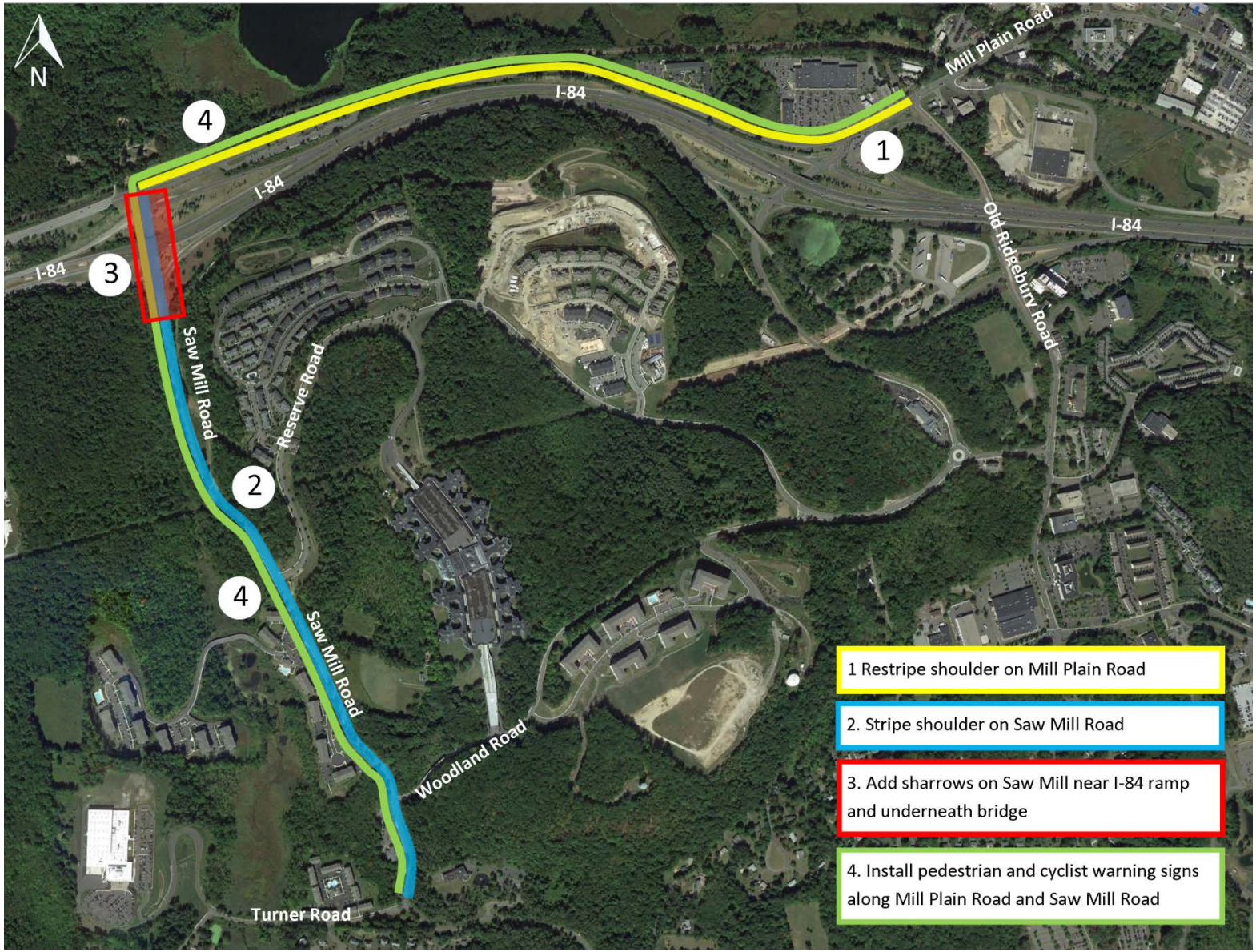


Figure 25. Medium Term Recommendations

4.3 Long Term

1) In areas of Mill Plain Road and Saw Mill Road where the roadway is wide, consider adding a buffer area between the travel lane and bike lane. This can be done with paint (Figure 26) or with stamped concrete.
2) Consider building a sidewalk on Mill Plain Road to the Farrington Woods Park entrance (Figure 27). When the roadway is too narrow for bike lanes allow cyclists to use the sidewalks.
3) Consider removing the concrete barriers underneath the I-84 Bridge on Saw Mill Road (Figure 28). Construct a sidewalk on one side of roadway to be used by pedestrians and cyclists.

Figure 29 depicts these recommendations.

Figure 26. Buffer between travel lane and bike lane

Figure 27. Construct sidewalk on Mill Plain Road

Figure 28. Remove jersey barriers

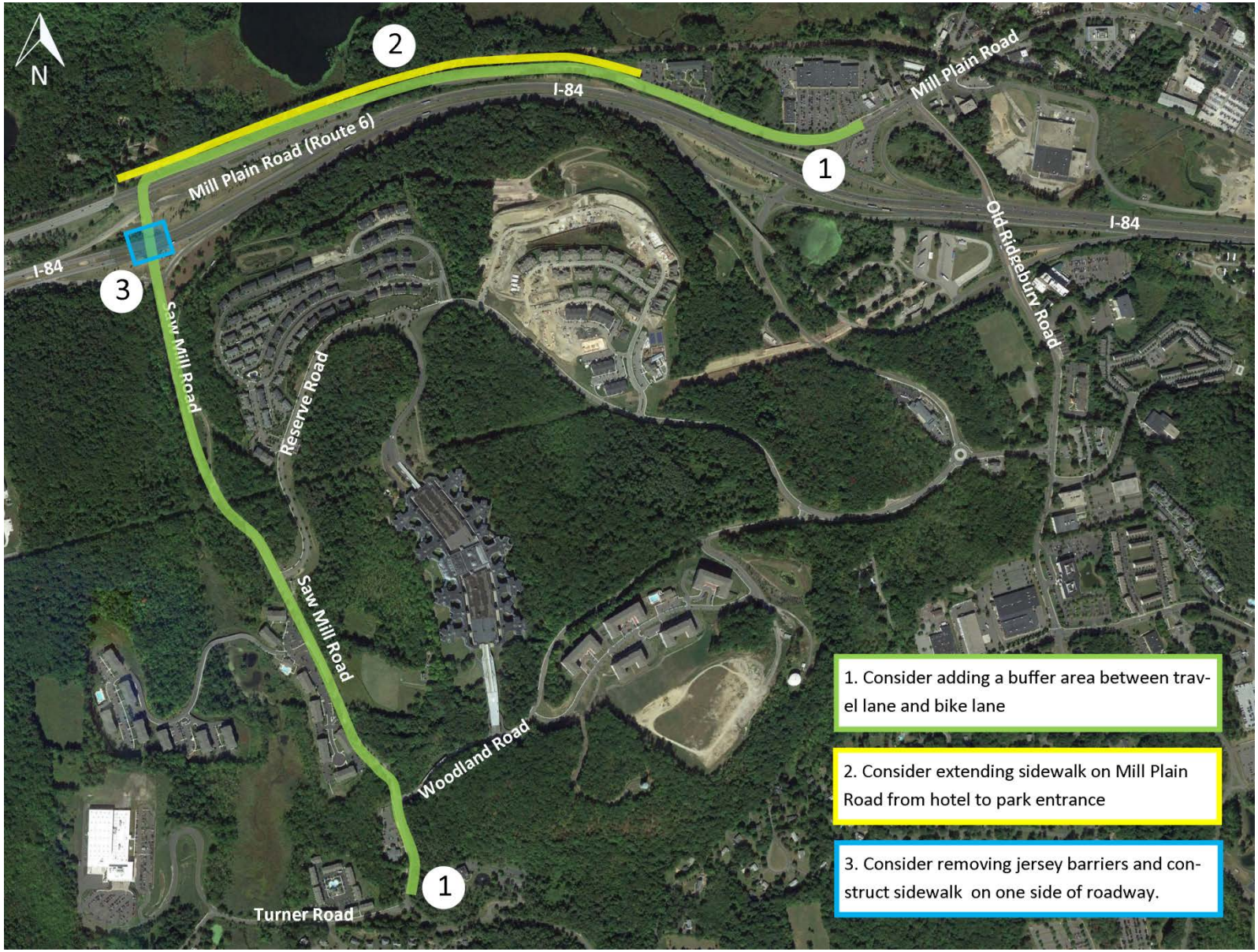


Figure 29. Long Term Recommendations

4.4 Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the City of Danbury RSA and provides Danbury with an outlined strategy to improve the transportation network along Mill Plain Road and Saw Mill Road for all road users, particularly focusing on pedestrians and cyclists. Moving forward, Danbury may use this report to prepare strategies for funding and implementing the improvements, and as a tool to plan for including these recommendations into future development in this area.

COMMUNITY
connectivity program

Appendix A

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM
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Welcome to the Community Connectivity Program Application

Please fill in the following information to provide the Audit team leaders with a comprehensive description of the area contained in this application.

1. Applicant contact information

Name	Farid L. Khouri, P.E.
Title	City Engineer
Email Address	f.khouri@danbury-ct.gov
Telephone Number	(203) 797-4641

2. Location information

Address	Saw Mill Rd & Mill Plain Rd I84 (Exit 2) to Farringtons Park
Description	Bike/Pedestrian Corridors/Sidewalks
City / Town	Danbury

3. Roadway type
(Please select all that apply)

- [x] State road
- [x] Local road
- [ ] Private Road
- [ ] Other (please specify)

4. Zoning
(Please select all that apply)

- [x] Industrial
- [x] Residential
- [x] Commercial
- [x] Mixed Use
- [x] Retail
- [ ] N/A (not applicable)
- [ ] Other (please specify)

5. Approximate mile radius around the location

Greater than a ½ mile

Other (Please Specify)

6. Community Sites
(Please select all that apply)

- [ ] Community Centers
- [x] Business Districts
- [x] Restaurant/Bar Districts
- [ ] Churches
- [x] Housing Complexes
- [ ] Proximity to Schools
- [x] Tourist Locations (examples – Casino, Malls, Parks, Aquarium, etc...)
- [ ] N/A (not applicable)
- [ ] Other (please specify)

7. Employment Facilities
(Retail, Industrial, etc...)

- [x] Yes
- [ ] No

If Yes please describe (please specify)

Retail shopping center

8. **Educational facilities**
(Please select all that apply)

- [ ] Public, Parochial, Private Schools (more than 1 school within a ½ mile)
- [ ] University / Community Colleges
- [x] N/A (not applicable)
- [ ] Other (please specify)

9. **Transit facilities**
(Please select all that apply)

- [ ] Bus
- [ ] Rail
- [ ] Ferry
- [ ] Airport
- [x] Park and Ride Lot
- [ ] N/A (not applicable)
- [x] Other (please specify)

Additional parking inside Farringtons Park

10. Safety Concerns
(Please select all that apply)

- [ ] Traffic (volumes & speed)
- [ ] Collisions
- [ ] Sidewalks
- [ ] Traffic Signals
- [ ] Traffic Signs
- [ ] Parking Restrictions / Additions
- [ ] Drainage
- [ ] ADA Accommodations
- [ ] Agricultural & Live Stock crossing
- [ ] Maintenance issues (cutting grass, leaves, snow removal)
- [x] N/A (not applicable)
- [ ] Other (please specify)

11. Are there any past, current or future transportation/economic development projects near this location (i.e. Federal, State or local projects)?

Yes

If Yes please describe and list all projects.

Widening to I84.

Improvements to Reserve Development roads and complex.

New Belimo Americas headquarters.

Future business (Lotus Energy).

Boehringer Ingelheim headquarters.

Matrix Conference and Banquet Center.

12. Environmental Concerns:

N/A not applicable

If Yes please describe and list.

13. Please explain why this location should be considered for an RSA

1. To encourage residents of Danbury and surrounding towns to use the new park for passive recreation.

2. Easy access to the park and close proximity to commercial district (grocery, boutique, office supply stores, coffee shop, liquor store, bank, restaurants.

3. Close to surrounding town (Brewster, NY) which has a train station to New York City and (Ridgefield, CT).

4. Easy access to I84 highway.

5. Availability of commuter parking lots.

6. Close proximity to the Reserve Housing Development (2,000 Units).

14. Are there plans to expand the area?
(Transportation Oriented Development, Economic Development, housing, etc...)

Yes

Currently under development (Reserve Development).

Improve/expand facilities in the City-owned Farringtons Park.

Recent development to business headquarters such as Belimo Americas and Boehringer Ingelheim.

15. Any other pertinent information that is unique to this location?

Yes

Close to the highway.

Close to the mall.

Close to Reserve Development (2,000 Units).

Near the park.

Close to bordering state that may encourage people for Danbury economic growth and tourism.

Close to Western Connecticut University on Mill Plain Road.

Thank you for completing the Community Connectivity application.

Please click on the "submit button" below and include the following attachments

1. Location map (google, GIS) **(Required)**
2. Collision data (If available)
3. Traffic data (ADT or VMT) (If available)
4. Pedestrian/bicycle data (If available)

Submit Application

Farid Khouri <f.khouri@danbury-ct.gov>

Current ADT - Westside Danbury

1 message

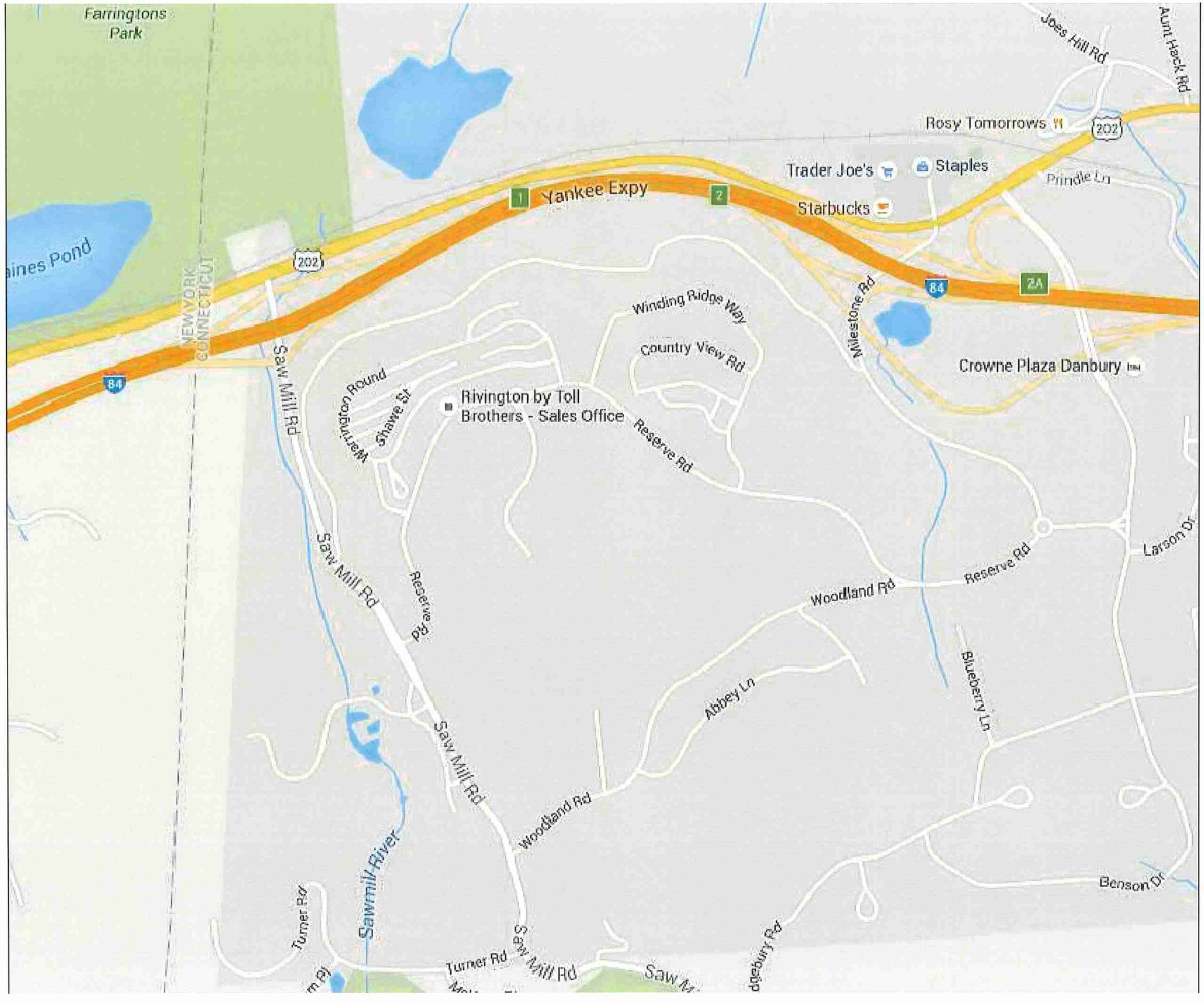
Abdul Mohamed <a.mohamed@danbury-ct.gov> Thu, Feb 4, 2016 at 11:24 AM
To: Farid Khouri <f.khouri@danbury-ct.gov>

2016 ADT:

1. Turner Road: **1,000**
2. Saw Mill Road: **6,100**
3. Mill Plain Road - East of Saw Mill Road: **7,500**
4. Mill Plain Road - West of Saw Mill Road: **8,500**

Thank you,

Abdul


Farringtons Park
Joes Hill Rd
Aunt Hack Rd
Rosy Tomorrows
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Trader Joe's
Staples
Starbucks
Prindle Ln
1
Yankee Expy
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NEW YORK
CONNECTICUT
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Saw Mill Rd
Winding Ridge Way
Country View Rd
Milestone Rd
84
2A
Crowne Plaza Danbury
Warrington Round
Shawe St
Rivington by Toll
Brothers - Sales Office
Reserve Rd
Saw Mill Rd
Reserve Rd
Woodland Rd
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Larson Dr
Abbey Ln
Blueberry Ln
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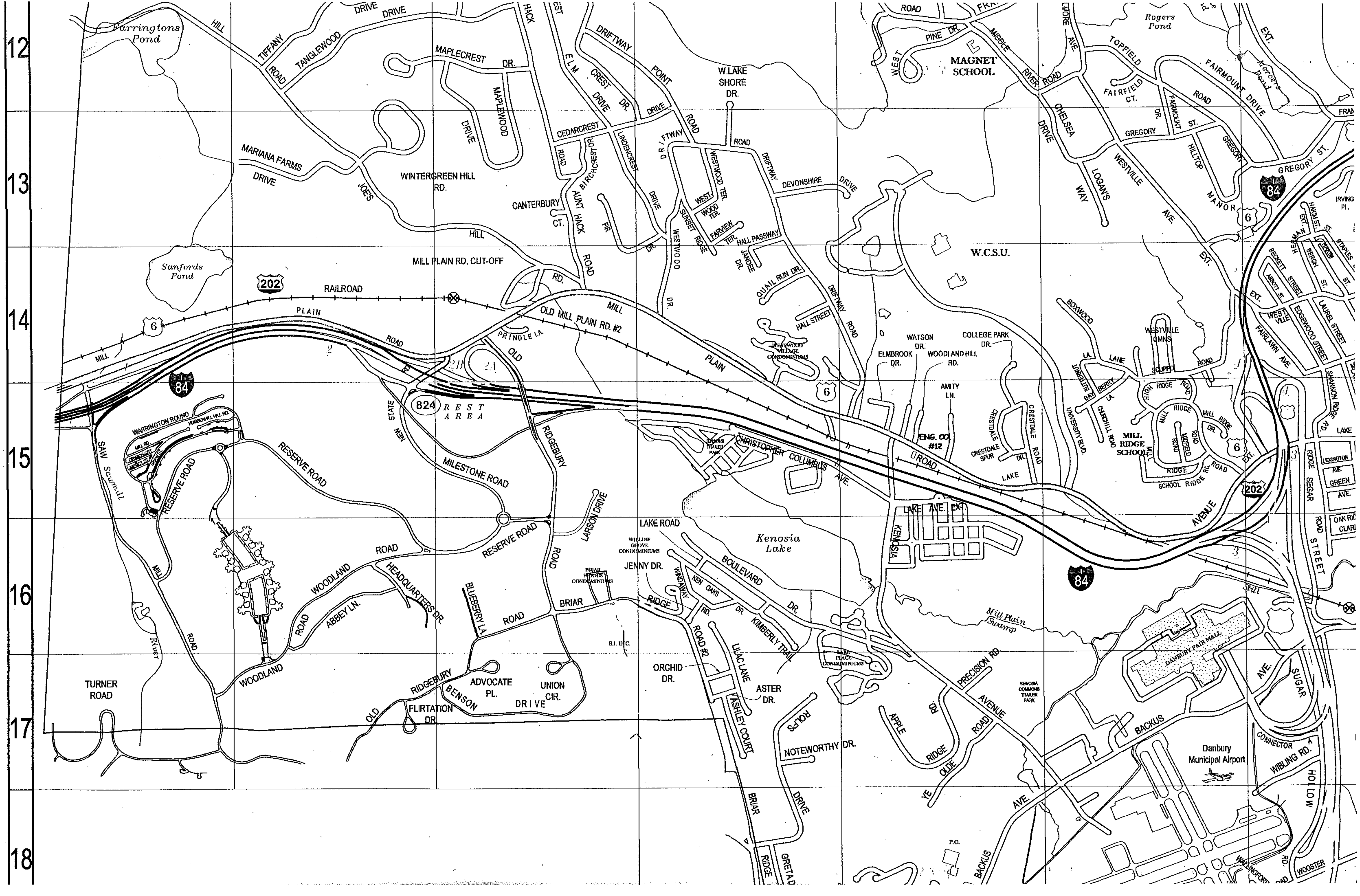
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Farringtons Pond
Sanfords Pond
Rogers Pond
Mercers Pond
TIFFANY ROAD
TANGLEWOOD DRIVE
MAPLECREST DR.
MAPLEWOOD DRIVE
ELM CREST DRIVE
CEDARCREST ROAD
LINDENCREST DRIVE
BIRCHCREST DR.
DRIFTWAY POINT ROAD
W.LAKE SHORE DR.
WESTWOOD TER.
WESTWOOD DR.
SUNSET RIDGE TER.
FAIRVIEW TER.
HALL PASSWAY
JANDEE DR.
QUAIL RUN DR.
DEVONSHIRE DRIVE
HALL STREET
MAGNET SCHOOL
PINE DR.
MIDDLE RIVER ROAD
CHELSEA DRIVE
LOGAN'S WAY
WESTVILLE AVE. EXT.
TOPFIELD ROAD
FAIRFIELD CT.
FAIRMOUNT DRIVE
FAIRMOUNT ST.
GREGORY ST.
HILLTOP MANOR
MARIANA FARMS DRIVE
JOE'S HILL
WINTERGREEN HILL RD.
CANTERBURY CT.
AUNT HACK ROAD
FIR DR.
MILL PLAIN RD. CUT-OFF
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OLD RIDGEBURY ROAD
NEW STATE RD.
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W.C.S.U.
WESTWOOD VILLAGE CONDOMINIUMS
ELMBROOK DR.
WATSON DR.
WOODLAND HILL RD.
COLLEGE PARK DR.
AMITY LN.
ENG. CO. #12
CRESTDALE ROAD
CRESTDALE SPUR
UNIVERSITY BLVD.
CHURCHILL ROAD
BOXWOOD LANE
BAY BERRY LA.
WESTVILLE CMNS
SCUPPO ROAD
HIGH RIDGE ROAD
MILL RIDGE DR.
MEDFIELD ROAD
MILL RIDGE SCHOOL
SCHOOL RIDGE RD.
IRVING PL.
HAKIM ST.
HERMAN EXT.
BECKETT STREET
ABBOTT ST.
BERGH ST.
STAPLES ST.
WEST VILLE
EDGEWOOD STREET
LAUREL STREET
FAIRLAWN AVE.
SHANNON RD.
LAKE
LEXINGTON AVE.
GREEN AVE.
OAK RIDGE
CLARK
SEGAR STREET
WARRINGTON ROUND
HUNDERHILL RD.
SAW MILL ROAD
Saw Mill River
RESERVE ROAD
MILESTONE ROAD
RIDGEBURY ROAD
LARSON DRIVE
CHRISTOPHER COLUMBUS AVE.
LAKE AVE. EXT.
KENOSIA AVE.
LAKE ROAD
Kenosia Lake
WILLOW GROVE CONDOMINIUMS
JENNY DR.
BRIAR WOODS CONDOMINIUMS
WINDAWAY ROAD #2
KEN OAKS DR.
BOULEVARD DR.
KIMBERLY TRAIL
LAKE PLACE CONDOMINIUMS
Mill Plain Swamp
WOODLAND ROAD
HEADQUARTERS DR.
ABBEY LN.
BLUEBERRY LA.
BRIAR RIDGE ROAD
B.I. INC.
TURNER ROAD
ADVOCATE PL.
UNION CIR.
BENSON DRIVE
OLD RIDGEBURY
FLIRTATION DR.
ORCHID DR.
LILAC LANE
ASTER DR.
ASHLEY COURT
ROLFS DRIVE
NOTEWORTHY DR.
APPLE RIDGE RD.
PRECISION RD.
KENOSIA COMMONS TRAILER PARK
YE OLDE ROAD
BACKUS AVE.
DANBURY FAIR MALL
SUGAR HOLLOW
CONNECTOR
WIBLING RD.
Danbury Municipal Airport
P.O.
GRETA DR.
WALLINGFORD RD.
WOOSTER


Devils Den
Farringtons Park
Haines Pond
NEW YORK
CONNECTICUT
Yankee Expy
1
2
202
84
2A
Rosy Tomorrows
Trader Joe's
Staples
Starbucks
Crowne Plaza Danbury
Rivington by Toll Brothers - Sales Office
Croton Farm
Putnam Precision Products
Borders Wine & Liquors
Saw Mill Rd
Sawmill River
Ridgebury Farms
Boehringer Ingelheim - Corporate Office

COMMUNITY
connectivity program

Appendix B

Built to deliver a better world

Road Safety Audit

Town: Danbury
RSA Location: Saw Mill Rd & Mill Plain Rd I84 (Exit 2) to Farringtons Park
Meeting Location: Danbury City Hall (Engineering Division, 1st Floor)
Address: 155 Deer Hill Avenue
Date: 7/12/2016
Time: 8:30am

Participating Audit Team Members

Audit Team Member	Agency/Organization
Craig Babowicz	CTDOT
Shawn McColgan	Danbury Police
Farid Khouri	City of Danbury
Abdul Barry Mohamed	City of Danbury
Sharon Calitro	City of Danbury
Rory DeRocco	Danbury Police
Stephen Mitchell	AECOM
Kristin Hadjstylianos	AECOM

COMMUNITY
connectivity program

Appendix C

Built to deliver a better world

Road Safety Audit – Danbury

Meeting Location: Danbury City Hall (Engineering Division, 1st Floor)
Address: 155 Deer Hill Avenue
Date: 7/12/2016
Time: 8:30 AM

Agenda

Type of Meeting: **Road Safety Audit – Pedestrian Safety**

Attendees: **Invited Participants to Comprise a Multidisciplinary Team**

Please Bring: **Thoughts and Enthusiasm!!**

8:30 AM **Welcome and Introductions**

- Purpose and Goals
- Agenda

8:45 AM **Pre-Audit**

- Definition of Study Area
- Review Site Specific Data:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- Issues
- Safety Procedures

10:00 AM **Audit**

- Visit Site
- As a group, identify areas for improvements

12:00 PM **Post-Audit Discussion / Completion of RSA**

- Discussion observations and finalize findings
- Discuss potential improvements and final recommendations
- Next Steps

2:30 PM **Adjourn for the Day – but the RSA has not ended**

Instruction for Participants:

- Before attending the RSA, participants are encouraged to observe the intersection and complete/consider elements on the RSA Prompt List with a focus on safety.
- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

Audit Checklist

Pedestrians and Bicycles	Comment

Pedestrian Crossings
• Sufficient time to cross (signal)
• Signage
• Pavement Markings
• Detectable warning devices (signal)
• Adequate sight distance
• Wheelchair accessible ramps
  o Grades
  o Orientation
  o Tactile Warning Strips
• Pedestrian refuge at islands
• Other	

Pedestrian Facilities
• Sidewalk
  o Width
  o Grade
  o Materials/Condition
  o Drainage
  o Buffer
• Pedestrian lighting
• Pedestrian amenities (benches, trash receptacles)
• Other	

Bicycles • Bicycle facilities/design • Separation from traffic • Conflicts with on-street parking • Pedestrian Conflicts • Bicycle signal detection • Visibility • Roadway speed limit • Bicycle signage/markings • Shared Lane Width • Shoulder condition/width • Traffic volume • Heavy vehicles • Pavement condition • Other	

Roadway & Vehicles	
• Speed-related issues o Alignment; o Driver compliance with speed limits o Sight distance adequacy o Safe passing opportunities	
• Geometry o Road width (lanes, shoulders, medians); o Access points; o Drainage o Tapers and lane shifts o Roadside clear zone /slopes o Guide rails / protection systems	

• Intersections o Geometrics o Sight Distance o Traffic control devices o Safe storage for turning vehicles o Capacity Issues	

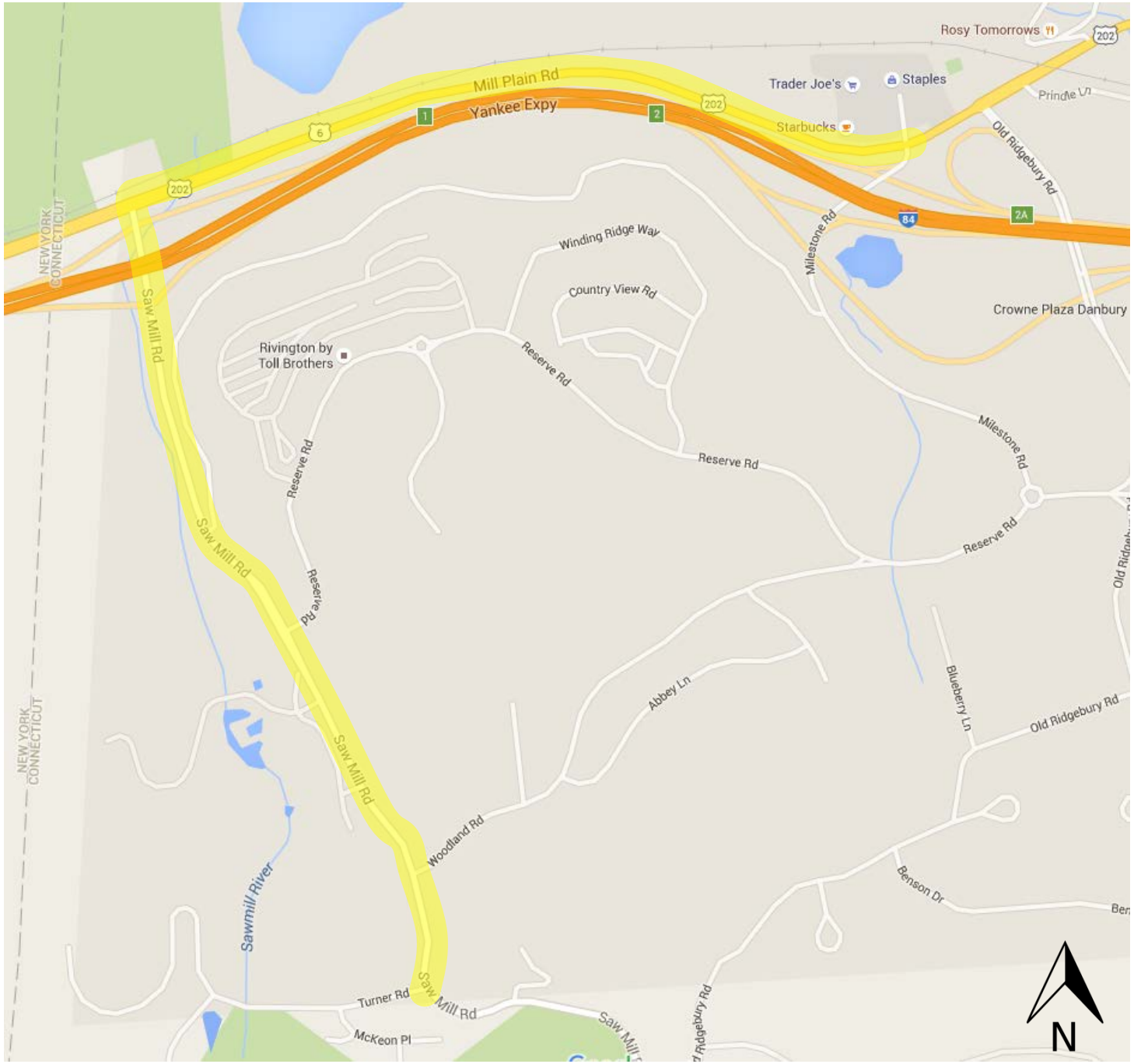
• Pavement
  o Pavement Condition (excessive roughness or rutting, potholes, loose material)
  o Edge drop-offs
  o Drainage issues
• Lighting Adequacy	

• Signing
  • Correct use of signing
  • Clear Message
  • Good placement for visibility
  • Adequate retroreflectivity
  • Proper support	

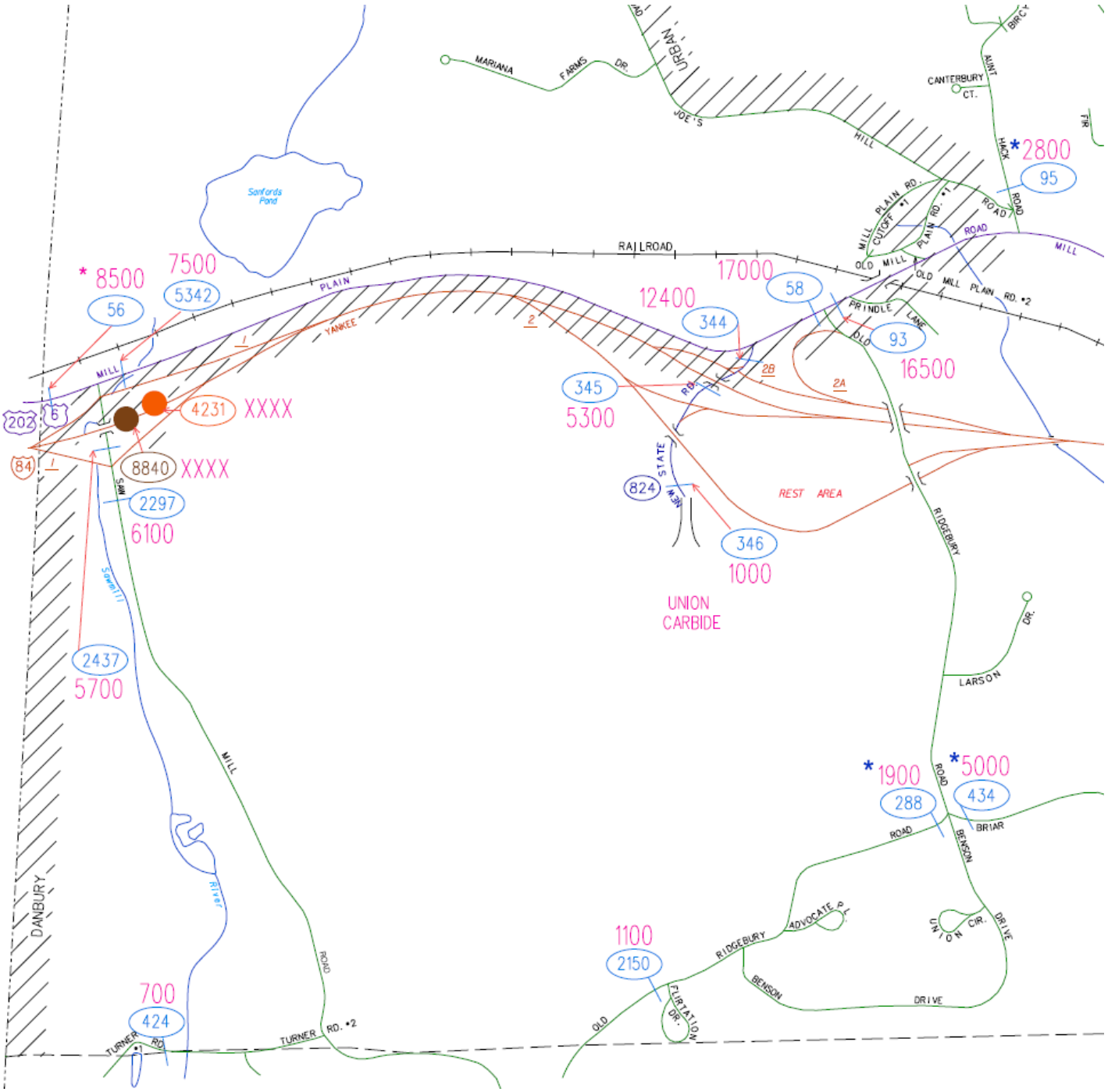
• Signals
  o Proper visibility
  o Proper operation
  o Efficient operation
  o Safe placement of equipment
  o Proper sight distance
  o Adequate capacity	

• Pavement Markings
  o Correct and consistent with MUTCD
  o Adequate visibility
  o Condition
  o Edgelines provided	

• Miscellaneous
  o Weather conditions impact on design features.
  o Snow storage	


Rosy Tomorrows
Mill Plain Rd
Yankee Expy
Trader Joe's
Staples
Starbucks
Prindle Ln
Old Ridgebury Rd
Milestone Rd
Crowne Plaza Danbury
Winding Ridge Way
Country View Rd
Rivington by
Toll Brothers
Reserve Rd
Saw Mill Rd
Abbey Ln
Blueberry Ln
Woodland Rd
Benson Dr
Sawmill River
Turner Rd
McKeon Pl
NEW YORK
CONNECTICUT
N

Average Daily Traffic (ADT)

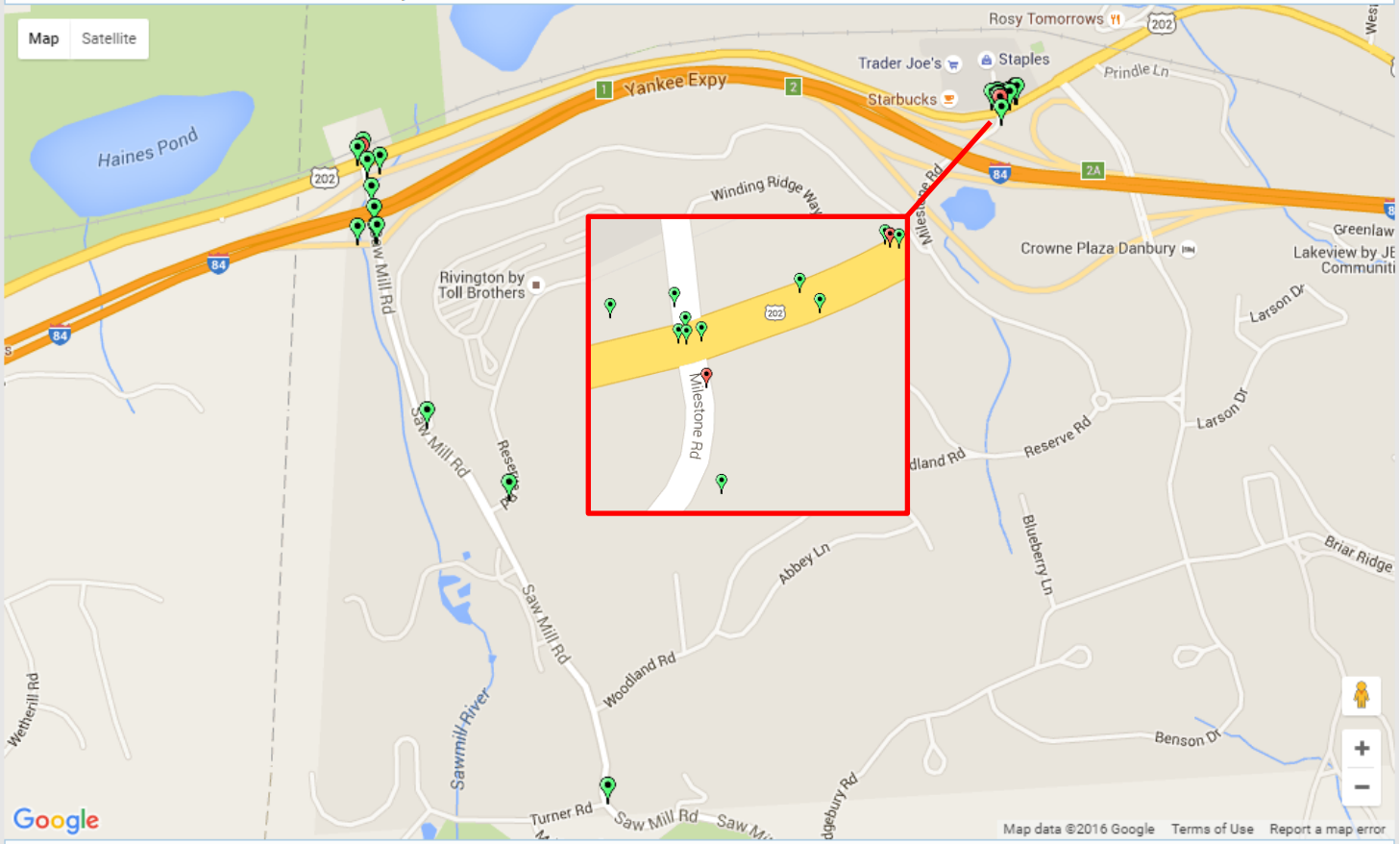


2015 Crashes

UCONN Connecticut Crash Data Repository

Search Criteria:

Dataset:	mmucc
Towns:	Danbury
Crash Severity:	Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only
Case Status:	Complete



Markers | Heatmap | Crashes By Route | Select & Query

Query Selection

Injury of any type (Serious, Minor, Possible)
Fatal (Kill) **Property Damage Only**

Route Segment Scale
0 0

Select All | Deselect All

Road Safety Audit – Danbury

Crash Summary

Data: 3 years (2012-2014)

There were no crashes involving a bicycle.

There were no crashes involving pedestrians.

Severity Type	Number of Crashes	
Property Damage Only	43	72%
Injury (No fatality)	17	28%
Fatality	0	0%
Total	60	

Manner of Crash / Collision Impact	Number of Crashes	
Unknown	0	0%
Sideswipe-Same Direction	9	15%
Rear-end	16	27%
Turning-Intersecting Paths	8	13%
Turning-Opposite Direction	8	13%
Fixed Object	5	8%
Backing	2	3%
Angle	5	8%
Turning-Same Direction	3	5%
Moving Object	3	5%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	0	0%
Sideswipe-Opposite Direction	1	2%
Miscellaneous- Non Collision	0	0%
Total	60	

Weather Condition	Number of Crashes	
Snow	2	3%
Rain	11	18%
No Adverse Condition	47	78%
Unknown	0	0%
Blowing Sand, Soil, Dirt or Snow	0	0%
Other	0	0%
Severe Crosswinds	0	0%
Sleet, Hail	0	0%
Total	60	

Light Condition	Number of Crashes	
Dark-Not Lighted	6	10%
Dark-Lighted	14	23%
Daylight	38	63%
Dusk	1	2%
Unknown	0	0%
Dawn	1	2%
Total	60	

Road Surface Condition	Number of Crashes	
Snow/Slush	1	2%
Wet	15	25%
Dry	43	72%
Unknown	0	0%
Ice	0	0%
Other	1	2%
Total	60	

Time		Number of Crashes	
0:00	**0:59**	1	2%
1:00	**1:59**	1	2%
2:00	**2:59**	2	3%
3:00	**3:59**	1	2%
4:00	**4:59**	0	0%
5:00	**5:59**	0	0%
6:00	**6:59**	3	5%
7:00	**7:59**	4	7%
8:00	**8:59**	3	5%
9:00	**9:59**	2	3%
10:00	**10:59**	2	3%
11:00	**11:59**	4	7%
12:00	**12:59**	4	7%
13:00	**13:59**	4	7%
14:00	**14:59**	1	2%
15:00	**15:59**	5	8%
16:00	**16:59**	1	2%
17:00	**17:59**	6	10%
18:00	**18:59**	6	10%
19:00	**19:59**	1	2%
20:00	**20:59**	2	3%
21:00	**21:59**	3	5%
22:00	**22:59**	3	5%
23:00	**23:59**	1	2%
Total		60	

N

Farringtons Park

Sanfords Pond

Park Entrance

Mill Plain Rd

6 202

84

Commuter Lot

Traffic Signal Renovations

Old Ridgebury Rd

Shopping Plaza

Mill Plain Rd

US Rte 6

Saw Mill Rd

(One Way)

New York

Connecticut

Saw Mill Rd

Reserve Rd

Lake Kenosia

SPEED LIMIT 35

SPEED LIMIT 25

Woodland Rd

Turner Rd

DRAFT

Legend

- Sidewalk
- Stop Controlled Intersection
- Signalized Intersection
- Pedestrian Crossing Sign
- Bridge or Culvert
- Park and Ride Lot
- Highway On/Off Ramp
- One Way Street or Driveway
- State Border
- Railroad

Danbury - Saw Mill Rd & Mill Plain Rd
I84 (Exit 2) to Farringtons Park

Post-Audit Discussion Guide

Safety Issues

- Confirmation of safety issues identified during walking audit

Potential Countermeasures

- Short Term recommendations

- Medium Term recommendations

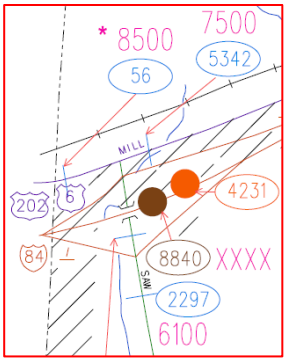
- Long Term recommendations

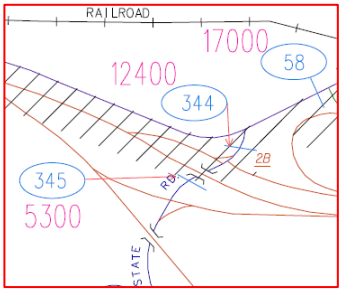
Next Steps

- Discussion regarding responsibilities for implementing the countermeasures (including funding)

Road Safety Audit – Danbury

Fact Sheet





Functional Classification:

- Saw Mill Road is classified as a Minor Arterial
- Mill Plain Road is classified as a Minor Arterial

ADT

- ADT on Saw Mill Road is 5,700 - 6,100
- ADT on Mill Plain Road is 7,500 just east of Mill Plain Road
- ADT on Mill Plain Road is 17,000 east of New State Road

Population and Employment Data (2014):

- Population: 82,781
- Employment: 44,207

Urbanized Area

- Saw Mill Road and Mill Plain Road are in the Danbury Urbanized Area

Demographics

- The statewide average percentage below the poverty line is 10.31%. Within the vicinity of Saw Mill Road and Mill Plain Road up to 20% of residents are below the poverty line

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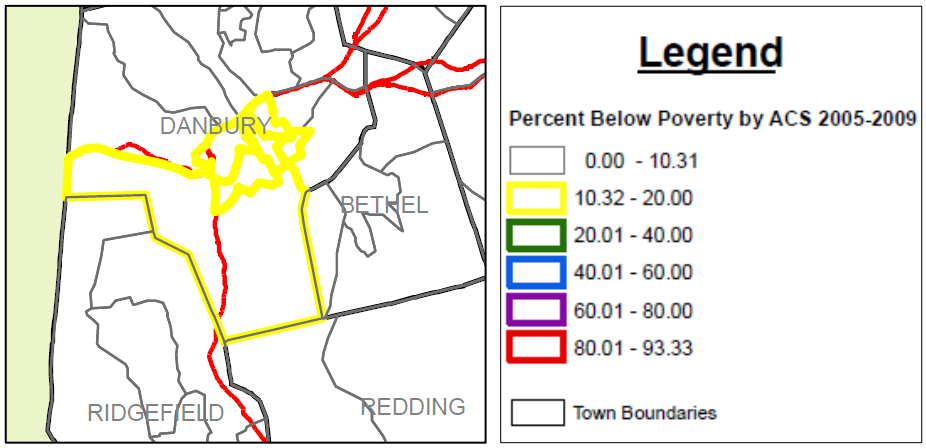

- The statewide average percentage minority population is 30.53%. There are no areas within the vicinity of Saw Mill Road and Mill Plain Road that exceed the state's average.

Air Quality

- Danbury's CIPP number 104
- Danbury is within the NY/NJ/CT Marginal Ozone Area and $PM_{2.5}$ Attainment/Maintenance Area
- Danbury is within a CO Maintenance Area